Dynamic Cooking Systems, Inc.

The Professional Restaurant Gas Tandoor Use and Installation Guide

Models: ■ DCS-CGT













A Message To Our Customers

"CONGRATULATIONS". You have selected the World's First UL, CUL, and NSF tested and Certified Restaurant Quality Ceramic Interior Gas Operated Tandoor. Because of this appliance's unique features we have developed this Use and Installation Guide. It contains valuable information on how to properly operate and maintain your new appliance for years of safe and enjoyable operation. To help serve you better, please fill out and return the Ownership Registration Card and keep this Guide handy, at it will help answer questions that may arise as you use your new Tandoor.

For your convenience, product questions can be answered by a DCS Technical Support Representative by phone: **1-888-396-2665**, or Fax 1-714-372-7003,

Or by mail:

Dynamic Cooking Systems, Inc. Attention Customer Service, 5800 Skylab Road, Huntington Beach, CA 92647

Contents

- 2 INTRODUCTION SAFETY PRECAUTIONS
- 3 FEATURES
- 4 SPECIFICATIONS PRODUCT DIMENSIONS
- 5 PRE-INSTALLATION
- 6-7 INSTALLING THE TANDOOR

- 8 INITIAL START UP / OPERATION
- 9 CLEANING AND MAINTENANCE
- 10 PARTS LIST
- 11 TROUBLESHOOTING
- 12 WARRANTY INFORMATION

WARNING

Improper installation, adjustment alteration, service or maintenance can cause property damage, or serious injury. Read the installation, operating and maintenance instructions thoroughly before use, installing or servicing this equipment.

FOR YOUR SAFETY

Do not store or use gasoline or any other flammable vapors and liquids in the vicinity of this or any other appliance. If you smell gas:

- 1. Shut off gas to the appliance.
- 2. Extinguish any open flames.
- 3. If odor continues, immediately call your gas supplier.

Introduction/Safety Precautions

Thank you for choosing your new Dynamic Cooking Systems Professional Restaurant Gas Tandoor. Our products are designed to be safe and reliable when properly cared for and used reasonably. Periodical inspections are recommended by your service agency or dealer. Installation, maintenance, and repairs should be performed by your local authorized service agency.

This equipment is for commercial use by trained professionals familiar with Tandoor cooking equipment. It is the responsibility of the supervisor or equivalent person to ensure that users wear appropriate clothing and safety gear before use. Please read all sections of this manual and retain for future reference.

<u>Caution:</u>

Should be used when operating your Tandoor, as some parts of the equipment, become <u>very hot especial</u> ly the top lip of the ceramic cone and could cause burns if touched accidentally. <u>This equipment is not</u> intended for home use.

When properly cared for, your Tandoor will give safe, reliable service for many years. However extreme care must be used since the Tandoor produces intense heat and can increase accident potential. When using this appliance basic safety practices must be followed, including the following:

• Begin by insuring proper installation and servicing. Follow the installation instructions provided with this product. Have you Tandoor installed by a qualified technician. Have the installer show you where the gas supply shut off valve is located so that you know where to shut off the gas to the Tandoor. If you smell gas, your installer has not done a proper job of checking for leaks. If the connections are not perfectly seated and tightened, you can have a small leak and therefore a faint gas smell.

- This Tandoor must be installed under a proper overhead vent hood.
- Keep appliance free and clear of any obstructions, either to the combustion ventilation pathway or the service and maintenance access way.
- Keep this appliance free and clear of all combustible materials.
- Be certain that specified safe and proper distances are maintained between the Tandoor and combustible wall surfaces and counters.
- Do not use charcoal in the Tandoor.

The Professional Tandoor by DCS comes with these standard features.

- Input rating = 70,0000 BTU/HR
- Overall dimensions 34" wide x 36" high x 35" deep.
- 1 inch thick ceramic bowl to retain heat longer and more evenly.
- All stainless steel exterior.
- Ceramic bowl preheats to 800F in approx. 45 minutes.
- Two heavy round cast iron burners each controlled separately for complete temperature control.
- 100% safety shut off standing pilot. (Main burner shuts off if pilot goes out).
- Automatic standing pilot main burner ignition.
- Unit comes with 6 inch legs.
- Large grease & crumb tray below burner.
- Rear 3/4" NPT manifold connection.
- Front accessible controls.
- 1/2'' thick stainless steel plate above burners deflects heat evenly into the bowl.
- Full length towel bar.
- UL, CUL, & NSF approved.
- Nat Gas 6" W.C L.P. gas 10" W.C.
- Optional Features
- Swivel casters w/front locking brakes (shown below).
- 5 foot quick disconnect flex hose.
- Stainless steel skewers.
- Stainless steel grease & crumb tray.



Specifications

EXTERIOR DIMENSION

• WIDTH: 34" (864mm) • HEIGHT (w/6" legs): 36" (915mm) • DEPTH: 35" (889mm)

SHIPPING WEIGHT DIMENSIONS

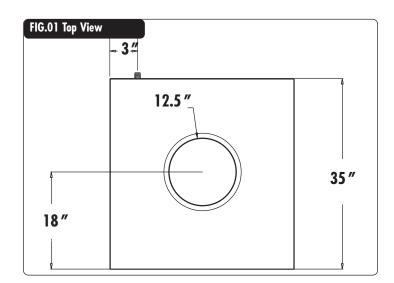
• MINIMUM ENTRY CLEARANCE: Crated 39 1/4" - Uncrated 34 1/4"

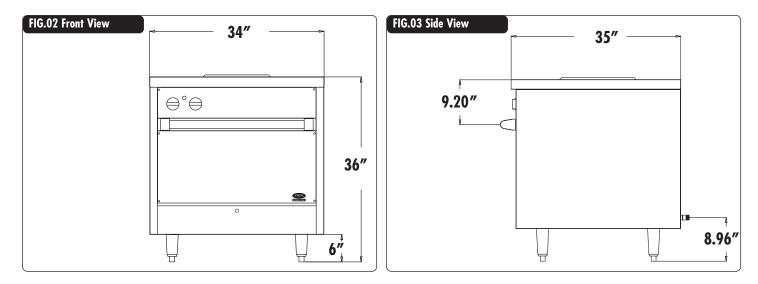
GAS REQUIREMENTS

- MANIFOLD PRESSURE: 6" W.C. Natural Gas 10" W.C. Propane Gas
- MANIFOLD SIZE: 3/4" NPT INPUT RATING 70,000 BTU / HR

CLEARANCES

- NON-COMBUSTIBLE: Sides o" Back o"
- COMBUSTIBLE: Sides 6" Back 6"





<u>Important:</u>

Safe and satisfactory operation of your equipment depends on its proper installation. Installation must conform to local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1-1988 (or latest edition). The Canadian CAN/CGA-B149.1 Natural Gas Installation code, and CAN / CGA B149.2 Propane installation code.

NOTE: Installation of any gas fired equipment should be performed by a licensed plumber. A manual gas shut off valve must be installed on the gas supply line ahead of the appliance(s) for safety and ease of future service.

CLEARANCES

The appliance area must be kept free and clear of all combustibles. Adequate clearance must be provided for air openings into the combustion chamber and for proper air supply. This unit is design certified for the following installations:

1. Intended for *other* use than household use.

2. For installation on a non-combustible floor when equipped with the factory supplied 6" adjustable legs or 5" casters.

3. With minimum clearance of 6" side and 6" rear for combustible construction.

STANDARDS

Installation must be planned in accordance with all applicable state and local codes, taking into account the following standards (or latest edition).

- Ventilating Hood ANSI/NFPA 96-1984
 Fire Detection Thermostat- ANSI/NFPA 72B-1979
- Fire Extinguisher (CO2) ANSI/NFPA 126-1985

Installation in the United States must meet: ANSI Z88.13 1991 (or latest edition) American Gas Association, and NFPA Standards # 96 and # 21-1 National Fire Protection Association.

AIR SUPPLY & VENTILATION

The area around the appliance must be kept clear to avoid any obstructions to the flow of combustion and ventilation air as well as for ease of maintenance, service, and proper appliance operation. Keep clearance for air openings into the combustion chamber and adequate air supply. Means must be provided to exhaust combustion wastes to the outside of the building.

Air movement should be checked during installation. Strong exhaust fans in this hood or in the overall air conditioning system can produce a slight air draft in the room, which can interfere with pilot or burner performance. If pilot or burner problem persist, make-up air openings of baffles may have to be provided in the room.

Filters and drip troughs should be part of any industrial hood, but consult local codes before constructing and installing any hood. The duct system, the exhaust hood, and the filter bank must be cleaned on a regular basis and kept free of grease.

ALTITUDE

The Tandoor input rating (BTU/HR) is for elevations up to 2,000 feet. For elevations above 2,000 feet, the rating should be reduced four percent for each additional 1,000 feet above sea level. The correct orifices are installed if the operating altitude is known at the time of sale.

UNPACKING

Check that the container is upright. Use outward prying no hammering to remove the carton. Check the Tandoor for visible damage. If such damage has occurred, do not refuse shipment, but contact the carrier and file the appropriate freight claims. Do not contact the factory, as responsibility for shipping damage is between the carrier and dealer or end user. Remove, unwrap, and temporarily set aside any accessories shipped with the Tandoor.

POSITIONING

Do not push against the edges of the unit in an attempt to adjust its position. Lift it slightly and place it where it is to be installed. Although all metal parts are deburred during manufacture **protective gloves are recommended when ever positioning or moving unit**. Accidents could occur if the Tandoor should move suddenly while being pushed into position by hand. Pushing a unit (rather than using a lift jack) also increases the probability of bending the leg spindles or the internal coupling connectors.

LEVELING

A carpenter's spirit level should be placed across the top of the Tandoor and the unit leveled both front to back and side to side. If it's not level, burner combustion may be erratic or the unit may not function efficiently. If the floor is level and smooth, level the unit with the screw thread of the legs; adjust the high corner and measure with the spirit level. If the floor is uneven or has a decided slope, level the unit with a metal shim; the adjustment required may exceed the thread available in the leg, and / or a castered line-up may not return exactly to the same position after being moved, requiring re-leveling after each move.

GAS CONNECTION

The gas supply (service) line must be the same size or greater than the inlet line of the appliance. The Tandoor uses a 3/4" NPT inlet, however, the gas supply lines must be sized to accommodate all the gas fired equipment that may be connected to that supply. Consult your contractor, gas company, supplier, or other recognized authorities. Sealant on all pipe joints must be resistive to propane gas. When using thread compound on gas piping, use very small amounts and only on male threads. Use a pipe thread compound that is not affected by the chemical action of L.P. gases. Do not apply pipe thread compound to the first two pipe threads. This will prevent clogging of the burner orifices and the control valve.

MANUAL SHUT-OFF VALVE

Supply shut-off valve must be installed on the gas service line ahead of the appliance in the gas stream to shut off supply in the event of an emergency.

PRESSURE REGULATING

The Tandoor and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at pressures in excess of 1/2 psig.

The Tandoor must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping at pressures equal or less than 1/2 psig.

Tandoor must have a pressure regulator on the incoming service line for safe and efficient operations. Regulators installed must be listed by a nationally recognized testing agency. Line service pressure may fluctuate with local demand. If the incoming pressure is in excess of 1/2 psig. A step down regulator will be required. **Minimum incoming pressure must be** 7" W.C. for natural and 11" W.C. for propane.

Manifold pressure should be checked with a manometer. Natural gas units require 6" W.C. and propane units require 10" W.C. Double check the arrow forged into the bottom of the regulator body which shows gas flow direction. It should point downstream towards the appliance. The air vent cap is also part of the regulator and should not be removed. The pressure regulator installed must be listed by a nationally recognized testing agency. If the vent line from the gas appliance regulator is used, it should be installed to the outdoors in accordance with local codes or in the absence of local codes, with the National Fuel Gas Code, ANSI z223.1-1988.

Regulators can be adjusted in the field, but it is not recommended that they be tampered with unless the part is known to be out of adjustment or serious pressure fluctuations are found to exist and can be solved no other way. Any adjustment to regulators must be made by qualified service personnel with the proper test equipment.

RATING PLATE

The Tandoor can be connected to either natural or propane gas, depending on the customers ordering instructions. Be sure the unit gas type matches the supply gas type. Gas type will be located on the rating plate.

The rating plate is attached to the inside of the lower front panel. Information on this plate includes the model and serial numbers. This data is essential for proper identification when communicating with the factory about a unit or requesting special parts or information. Other information on this plate is the BTU/HR input of the burners, outlet gas pressure in inches W.C., and whether the unit is orificed for natural or propane gas.

The Tandoor can be connected to either natural or propane gas, depending on the customers ordering. Be sure the unit gas type matches the supply gas type. The Tandoor is field convertible between natural and propane gas. Contact customer service at (888) 281-5698 for conversion kit and conversion instructions.



Caution: All connections must be sealed with a joint compound suitable for L.P. gas, and all connec-

tions must be tested with a soapy solution before lighting any pilots. <u>DO NOT</u> use an open flame to check for leaks. Putting an open flame beside a new connection is not only dangerous, but will often miss small leaks that a soapy solution would find.

FLEXIBLE COUPLING, CONNECTORS, & CASTERS

If the unit is to be installed with flexible coupling and / or quick disconnect fittings, the installer must use a heavy duty, commercial flexible connector at least 3/4" NPT (with suitable strain relief) in compliance with the standard for connectors for movable gas appliances, ANSI Z21.69-1987 and Addenda, Z2.169a-1989 (or latest edition) or connectors for movable appliances, CAN/CGA-6.16 (or latest edition) and a quick disconnect device must comply with the standard for quick disconnect devices for use with gas fuel, ANSI Z21.41-1989 (or latest edition) or quick disconnect devices for use with gas fuel, ANSI Z21.41-1989 (or latest edition) or quick disconnect devices for use with gas fuel, CAN1-6.9 (or latest edition).

Initial Start-up / Operation

PLACEMENT OF LAVA ROCK

Place a layer of lava rock on the stainless steel pan located directly above the burners.

PILOT & MAIN BURNERS

All Tandoors are tested and adjusted before leaving the factory, effectively matching them to sea level conditions. Adjustments to assure proper operation may be necessary on installation to meet local conditions; low gas pressure, differences in altitude, variations in gas characteristics, possible problems caused by rough handling or vibration during shipment, and are to be performed only by qualified service personnel. These are the responsibilities of the customer and/or dealer and are not covered by Dynamic Cooking Systems Inc.

The Tandoor utilizes a standing pilot to ignite the main burners. Both the pilot and main burner gas supply are fed through a thermomagnetic safety valve. Proof of pilot through the use of a thermocouple is required for main gas supply to open. To gain access to the safety valve and pilot open the hinged lower front panel. The pilot is located between the two burners.

LIGHTING THE PILOT

- 1) Turn OFF the two main burner valves located on the front of the Tandoor.
- 2) Open the manual shut off valve in the incoming service line.
- 3) Open the hinged lower front panel.

4) Depress and hold the red button on the safety and apply a lit match or taper to the pilot burner. Hold this button in until the pilot stays lit when it is released. This may take a minute or longer.

5) If the pilot does not stay lit, depress the red button on the safety valve and relight the pilot, holding the red button in longer before releasing. It may be necessary to relight the pilot several times until the lines are purged of any trapped air and a constant gas flow is established.

LIGHTING MAIN BURNERS

Once the pilot burner flame is established either or both of the main burners can be lit by turning on the burner valves located on the front panel of the Tandoor.



Warning: When lighting the pilots and checking for burner performance keep your face away from the burners. The burner may light with a "POP" and could flashback and cause facial burns.



Caution: If the pilot and main burner go out, the Tandoor <u>MUST</u> be left completely shut down at least 5 minutes before lighting.

SHUT DOWN

Nightly shut down turn OFF both main burner valves located on the front panel of the Gas Tandoor. To completely shut down turn OFF both burner valves located on the front panel of the Tandoor and turn OFF the manual shut off valve in the incoming service line.

GENERAL

New units are wiped clean at the factory to remove any visible signs of dirt, oil, grease remaining from the manufacturing process. They should be washed thoroughly with hot soapy water to remove any installation dust or debris before being used for food preparation. Also wash any accessories shipped with the Tandoor.

Any piece of equipment works better and last longer when maintained properly and kept clean. Tandoor is no exception. The Tandoor must be kept clean during the working day and thoroughly cleaned at the end of each day.

DAILY CLEANING

During the day, all stainless steel body parts should be wiped regularly with hot soapy water. At the end of each day, a liquid cleaner designed for this material should be used. Remove and thoroughly clean drip pan.

The Tandoor should be checked and adjusted periodically by a qualified service personnel as part of a regular kitchen maintenance program. This service should include the removal of any built up grease in control boxes.

CAUTION: Do not use steel wool, abrasives clothes, cleansers, or powders. If it is necessary to scrape stainless steel to remove encrusted material, soak the area with hot cloths to loosen the material then use a wood or nylon scraper. Do not use a metal knife, spatula, or any other metal tool to scrape stainless steel. Scratches made by these types of instruments are difficult to remove.

REPLACING PARTS

The following should be performed by a qualified service technician. *Caution: Before servicing, be sure to shut gas supply to* " *OFF*"

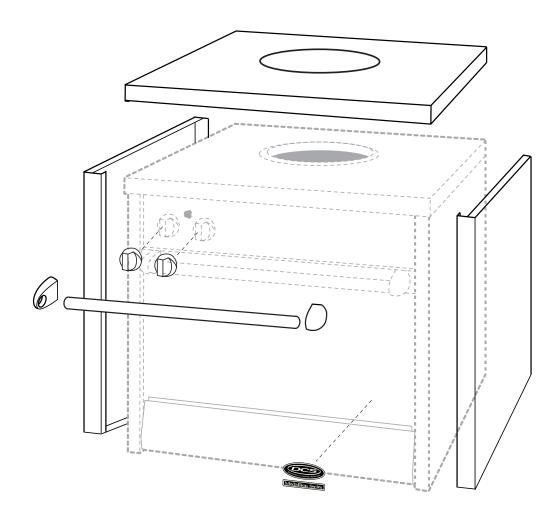
To Replace Burners:

- 1) Disconnect the pilot tubing from the safety valve.
- 2) Remove drip pan.
- 3) Remove the two 1/4'' bolts underneath and towards the front of the Tandoor.
- 4) Drop the burner frame and remove burners.

To replace the pilot, follow the same steps as replacing the burner. Once the burner is out then change the pilot. To gain access to the manual valves for replacement, remove the six (6) screws from the front panel and remove the front panel.

Parts List

| ITEM | DESCRIPTION | PART NO. | 11 | Crumb Tray Slide L/H | 20065-02 | |
|--------|---------------------------|----------|----|-------------------------------------|----------|--|
| | | | 12 | Front Panel | 20068 | |
| 1 | Manual Valve 3/8 | 13034 | 13 | Body Side Panel R/H | 20071-01 | |
| 2 | Knob Chrome | 14020-02 | 14 | Body Side Panel L/H | 20071-02 | |
| 3 | Ceramic Bowl | 14272 | 15 | Back Panel | 20072 | |
| 4 | Logo DCS Medallion Series | 17301 | 16 | Lava Rock Bag | 10312 | |
| 4 5 | Leg Assembly | 18036-1 | 17 | Orifice | 13005-05 | |
| 6 | Lid W/Assembly | 20047 | 18 | Regulator | 13006-5 | |
| 7 | Lid Handle | 20049 | 19 | Thermocouple | 13007-01 | |
| 8 | Manifold W/Assembly | 20049 | 20 | 12 Burner Assembly | 20078 | |
| 9 | Crumb Tray | 20064 | 21 | 8 Burner Assembly | 20079 | |
| 10 | Crumb Tray Slide R/H | 20065-01 | | (Model Shown With Optional Casters) | | |



These troubleshooting procedures must be carried out only by a factory authorized agency for warranty repair. The problems and possible solutions given below cover those most commonly encountered.

PILOT BURNER MALFUNCTION

Pilot will not ignite; no evidence of gas at pilot burner:

- Check that the gas valve is open and gas is present at the valve.
- Check pilot burner adjustment. Adjust the pilot flame to extend above the top of the pilot. Pilot adjustment screw is located on the front panel between the two burner valves.
- Remove pilot gas supply line and check for dirt. Blow out if necessary and reinstall.
- Check pilot burner orifice for dirt.

Pilot burner ignites but will not remain lit when red button is released:

- Check that the thermocouple lead is firmly screwed into the safety valve.
- Remove end of thermocouple lead from safety valve and clean with fine sandpaper.
- If thermocouple is defective or damaged, replace thermocouple.
- Pilot flame may be too high or too low. Adjust flame by turning pilot flow adjustment screw.

Pilot flame of proper size but unstable. Flame wavers and does not envelop the thermocouple completely at all times:

• Check for drafts which might be caused by air conditioning equipment or make-up air apparatus. Turn these "OFF" and recheck the pilot.

MAIN BURNER MALFUNCTIONS.

Main burner will not come "ON", no gas present at main burner:

- Check that the gas valve is open.
- Check that pilot is ignited and is operating properly.
- The safety valve may be defective. Replace if necessary.

Main burner flames are small and appear lazy, Tandoor is not heating up quickly.

• Check gas pressure at the pressure tap on the manifold pipe located behind the front panel. Use a standard water type U-Gauge manometer. With the burners in operation, the manifold pressure should be 6" W.C. natural gas and 10" W.C. on propane gas. If not, unscrew the cover of the pressure regulator adjustment. Use a screwdriver to turn adjusting screw clockwise to increase gas pressure to burner, counter-clockwise to decrease the pressure. Replace cover and plug.

Warranty

For warranty service, contact your local DCS authorized service agency. Provide him with the Model Number, Serial Number, and date of installation, and a brief description of the problem. If you need assistance in locating the authorized service agency in your area please contact our DCS Customer Service Department for an authorized service agent near you, our number is (888) 281-5698.

Your satisfaction is of the utmost importance to us. If a problem cannot be resolved to your satisfaction, please write or fax us at:

Write:

Dynamic Cooking Systems, Inc. Attention: Consumer Relations 5800 Skylab Road Huntington Beach, CA 92647 Fax us at: (714) 372-7003

Length of Warranty:

One (1) Year Full PARTS ONLY.

Five (5) Years Limited warranty covering stainless steel parts under NORMAL USE.

DCS Will Pay For

All repair parts found to be defective due to materials or workmanship for one full year from date of purchase. This does not apply if the unit was subjected to other than **normal use**. Service must be provided by **Authorized Factory Agent** during normal working hours.

Replacement will be F.O.B. Dynamic Cooking Systems, and Dynamic Cooking Systems will not be liable for any transportation costs, labor costs, or export duties. This warranty shall not apply, nor can we assume responsibility for damage that might result from failure to follow manufactures instructions or local codes, where the appliance has been tampered with or altered in anyway or which, in our judgement, has been subjected to misuse, negligence, or accident. Implied warranty shall not extend beyond the duration of this written warranty.

This warranty is in lieu of all warranties expressed or implied and all other obligations or liability in connection with the sale of this appliance.

DCS Will Not Pay For

- Installation or start-up
- Will not cover parts that have been rendered inoperative due to lack of maintenance.
- Shipping damage.
- Service by an unauthorized agency.
- Damage or repairs due to service by an unauthorized agency or the use of unauthorized parts.
- Service during other than normal working hours.
- Improper installation, such as improper hook-up, etc.
- Service visits to teach you how to use the appliance; correct the installation; reset circuit breakers or replace home fuses.
- Repairs due to other than normal use.
- Damage caused from accident, abuse, alteration, misuse, incorrect installation or installation not in accordance with local codes.

This warranty applies to appliances used in commercial applications; it does not cover their use in residential situations. This warranty is for products purchased and retained in the 50 states of the U.S.A., the District of Columbia and Canada. This warranty applies even if you should move during the warranty period. Should the appliance be sold by the original purchaser during the warranty period, the new owner continues to be protected until the expiration date of the original purchaser's warranty period. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.



5800 Skylab Road, Huntington Beach, CA. 92647 Tel: (714) 372-7000 Fax: (714) 372-7001 Parts/Customer Service (888) 281-5698 As product improvement is an ongoing process at DCS, we reserve the right to change specifications or design without notice.

> Part No. 17331 Litho in USA 08/2000